

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A solid-state image sensing
2 apparatus comprising:
3 an effective signal photoelectric conversion unit to
4 receive object light; and
5 a light-shielded reference signal photoelectric
6 conversion unit to output an optical black level equivalent
7 signal; and
8 a noise suppressing circuit which suppresses a reset
9 variation for each pixel,
10 wherein in addition to an output from the effective
11 signal photoelectric conversion unit, one of an output from
12 the reference signal photoelectric conversion unit and a
13 predetermined reference voltage is selectively output.

1 Claim 2 (currently amended): A solid-state image sensing
2 apparatus according to claim 1, ~~which further comprises a~~
3 ~~noise suppressing circuit which suppresses a reset variation~~
4 ~~for each pixel, and~~
5 ~~in which~~ wherein switching between the predetermined
6 reference voltage and the output from the reference signal
7 photoelectric conversion unit is done by changing a driving
8 signal of the noise suppressing circuit.

1 Claim 3 (original): A solid-state image sensing apparatus
2 according to claim 1, wherein the predetermined reference
3 voltage is a voltage to be applied to the reference signal
4 photoelectric conversion unit.

1 Claim 4 (currently amended): A solid-state image sensing
2 apparatus according to claim 1, ~~which further comprises~~
3 wherein the noise suppressing circuit includes a switch unit
4 which switches at least between the predetermined reference
5 voltage and the output from the reference signal photoelectric
6 conversion unit, and

7 in which whether an output signal from the reference
8 signal photoelectric conversion unit can be read out can be
9 selected.

1 Claim 5 (currently amended): A solid-state image sensing
2 apparatus comprising:

3 an effective signal photoelectric conversion unit
4 which photoelectrically converts an object image and outputs
5 an effective image signal;

6 a determination unit which compares a luminance
7 value in a screen sensed in accordance with a predetermined
8 procedure with a predetermined value;

9 a light-shielded reference signal photoelectric
10 conversion unit which outputs an optical black level
11 equivalent signal; and

12 a noise suppressing unit which suppresses a noise
13 component contained in the effective image signal by referring
14 to one of an output from the reference signal photoelectric
15 conversion unit and a predetermined reference voltage,
16 wherein the noise suppressing unit outputs the
17 predetermined reference voltage when the determination unit
18 determines that the luminance value in the sensed screen is
19 not less than the predetermined value, and
20 wherein the noise suppressing unit suppresses a
21 reset variation for each pixel.

1. Claim 6 (currently amended): A solid-state image sensing
2 apparatus according to claim 1, ~~which further comprises a~~
3 ~~noise suppressing circuit to suppress a reset variation for~~
4 ~~each pixel, wherein~~ the noise suppressing circuit has having
5 at least a clamp capacitor, a sample-and-hold switch, a clamp
6 switch, and a sample-and-hold capacitor, which are connected
7 to each of vertical signal lines extending from the effective
8 signal photoelectric conversion unit and the reference signal
9 photoelectric conversion unit, and
10 in which one of the output from the reference signal
11 photoelectric conversion unit and the predetermined reference
12 voltage is held in the sample-and-hold capacitor for the
13 reference signal photoelectric conversion unit and output by
14 driving and controlling the sample-and-hold switch and the
15 clamp switch of the vertical signal lines extending from the
16 reference signal photoelectric conversion unit.

1 Claim 7 (currently amended): A solid-state image sensing
2 apparatus according to claim 1, ~~which further comprises a~~
3 ~~noise suppressing circuit to suppress a reset variation for~~
4 ~~each pixel, wherein~~ the noise suppressing circuit has having
5 at least a reset signal capacitor, a reset signal switch, an
6 optical signal capacitor, and an optical signal switch, which
7 are connected to each of vertical signal lines extending from
8 the effective signal photoelectric conversion unit and the
9 reference signal photoelectric conversion unit, and
10 in which in a predetermined case, both of the reset
11 signal capacitor and the optical signal capacitor are caused
12 to hold reset signal components and output the reset signal
13 components by driving and controlling the reset signal switch
14 and the optical signal switch.

1 Claim 8 (original): A solid-state image sensing apparatus
2 according to claim 7, wherein the predetermined case is a case
3 in which an incident light amount of the object light is
4 large.

1 Claim 9 (currently amended): A solid-state image sensing
2 apparatus according to claim 1, ~~which further comprises a~~
3 ~~noise suppressing circuit to suppress a reset variation for~~
4 ~~each pixel, wherein~~ the noise suppressing circuit has having
5 at least a capacitor connected to each of vertical signal
6 lines extending from the effective signal photoelectric

7 conversion unit and the reference signal photoelectric
8 conversion unit,
9 a first power supply line which supplies a power to
10 the effective signal photoelectric conversion unit, and
11 a second power supply line which supplies a power to
12 the reference signal photoelectric conversion unit, and
13 in which in a predetermined case, a potential of a
14 vertical signal line extending from the reference signal
15 photoelectric conversion unit is fixed to GND by the second
16 power supply line, and the predetermined reference voltage is
17 held in the capacitor extending from the reference signal
18 photoelectric conversion unit and output.

1 Claim 10 (original): A solid-state image sensing apparatus
2 according to claim 9, wherein the predetermined case is a case
3 in which an incident light amount of the object light is
4 large.

1 Claim 11 (currently amended): A solid-state image sensing
2 apparatus according to claim 1, which further comprises a
3 ~~noise suppressing circuit which suppresses a reset variation~~
4 ~~for each pixel, and~~
5 ~~—————~~an output amplifier which amplifies an output from
6 the noise suppressing circuit, and
7 in which a signal output level of the effective
8 signal photoelectric conversion unit is corrected selectively
9 on the basis of one of a pixel signal component of the

10 reference signal photoelectric conversion unit and a reset
11 level of the output amplifier, which is different from the
12 signal component.

1 Claim 12 (currently amended): A solid-state image sensing
2 apparatus comprising:
3 effective signal photoelectric conversion means for
4 receiving object light; and
5 light-shielded reference signal photoelectric
6 conversion means for outputting an optical black level
7 equivalent signal; and
8 a noise suppressing circuit which suppresses a reset
9 variation for each pixel,
10 wherein in addition to an output from the effective
11 signal photoelectric conversion means, one of an output from
12 the reference signal photoelectric conversion means and a
13 predetermined reference voltage is selectively output.